

SHUAI WANG – CURRICULUM VITAE

CONTACT

Position: Ph.D. candidate, Department of Mathematics, Columbia University in the City of New York
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RESEARCH INTERESTS

Algebraic Geometry, Representation Theory, Mathematical Physics

EDUCATION

- Ph.D. candidate in Mathematics, **Columbia University in the City of New York** 2015–Present
- B. A. in Mathematics, **Peking University** 2011-2015

HONORS AND AWARDS

- Dean's Fellow, Graduate School of Arts and Sciences, Columbia University 2015-present
- Silver Medal, S.T. Yau College Student Mathematics Contests 2014
- First Prize, National Physics Contest, China 2012
- Leo Koguan Scholarship, Peking University, China 2011-2015

PUBLICATIONS AND PREPRINTS

1. Shuai Wang, Relative Gromov-Witten theory and vertex operators, *In preparation*.
2. Shuai Wang and Yihang Zhu, Non-recursive formulas of Kazhdan-Lusztig polynomials for finite and affine G/P , *In preparation*.

TALKS

Columbia University in the City of New York

- Non-recursive formulas of Kazhdan-Lusztig polynomials for finite and affine G/P Sep 2019
- Monad realization of $\text{Hilb}(T^*\mathbf{P}^1)$, infinite dimensional Lie algebras and quantum multiplications Apr 2019
- Relative Gromov-Witten theory and vertex operators, Apr 2019
- Koszul duality in representation theory Feb 2019
- Local DT theory of curves II Oct 2018
- Local DT theory of curves I Oct 2018

- Wall Crossing, Curve Counting and Jacobi Forms Oct 2017
- Curve Counting via Stable Pairs Sep 2017
- A Rank 2 Bundle on \mathbf{P}^4 with 15,000 Symmetries Jun 2017
- An Algebraic Family of Genus-One Curves Violating the Hasse Principle Sep 2016

The University of Chicago

- Stable Envelopes in Cohomology and K-theory Aug 2017

The University of Utah

- Relative Gromov-Witten theory and vertex operators Oct 2019
- Non-recursive formulas of Kazhdan-Lusztig polynomials for finite and affine G/P Oct 2019

The University of Michigan

- Non-recursive formulas of Kazhdan-Lusztig polynomials for finite and affine G/P Oct 2019

Massachusetts Institute of Technology

- Non-recursive formulas of Kazhdan-Lusztig polynomials for finite and affine G/P Nov 2019

University of Massachusetts Amherst

- Relative Gromov-Witten theory and vertex operators Dec 2019

TEACHING EXPERIENCE

Department of Mathematics, Columbia University in the City of New York

- Instructor, Undergraduate seminar II Spring 2019
- Instructor, Undergraduate seminar I Fall 2018
- Instructor, Calculus I Summer 2018
- Instructor, Calculus I Fall 2017
- Teaching Assistant, Lie groups and representations Fall 2019
- Teaching Assistant, Ordinary differential equations Fall 2018
- Teaching Assistant, Representation theory of finite groups Spring 2018
- Teaching Assistant, Honors Math B Spring 2017
- Teaching Assistant, Calculus I Fall 2016

Science Honors Program

- Instructor, Representation Theory of Finite Groups Fall 2017
- Instructor, Representation Theory of Finite Groups Fall 2016

CONFERENCES

- Western Algebraic Geometry Symposium, The University of Utah Nov 2019
- Facets of algebraic geometry, The University of Michigan Aug 2019
- Quantum Structures in algebra and geometry, Northeastern University Aug 2019
- Crossing the walls in enumerative geometry, Snowbird May 2018
- AGNES, Brown University Sep 2018
- AGNES, Northeastern University Oct 2017
- Interactions between Representation Theory and Algebraic Geometry Aug 2017
- Hodge Theory, Moduli, and Representation Theory Aug 2017

LANGUAGES AND SKILLS

LANGUAGES

English (fluent), Chinese (native)

SKILLS

C/C++, Python, SageMath, \LaTeX , HTML5.